

Multimedia Appendix 2. Evaluation reported in empirical studies of eHealth interventions.

Reference	Used a framework or a predefined theory for evaluation or designing the intervention	Intervention duration	Number of participants	Data collection method	Presentation of result of the intervention	Aspects for evaluation	Phases involved
[20]	No	6 weeks	28	Qn: Surveys (DASS-21, WSAS, MHSES). Ql: Telephone interviews.	Statistically and in descriptive format.	Clinical aspect: Stress, anxiety, depression.	Pilot study
[42]	No	1-2 weeks	17	Ql: Thematic analysis of text messages.	Descriptive interpretation of data.	Clinical aspect: Mental health symptoms; mental health coping strategies; mental health treatment and management; lifestyle behaviors. Human and social aspect: Social relationships and leisure activities; motivation and personal goal setting; and independent living.	Pilot study
[43]	No	6 weeks and 12 weeks	101	Qn: Survey with standardized questionnaire (PHQ-9).	Statistically	Clinical aspect: Depressive symptom severity.	Pilot study
[44]	No	6 weeks	537	Qn: Survey with standardized questionnaire (HADS, CES-D).	Statistically	Clinical aspect: Symptoms of anxiety and depression.	Pilot study
[45]	No	2 years	49	Qn: Survey Ql: Behavioral analysis, semi-structure interviews.	Descriptive interpretation of data.	Technological aspect: Content, layout, program design and usability testing of a web-based program.	Design and pretesting
[46]	No	12 weeks	225	Qn: Survey (online questionnaire). Ql: Clinical interview.	Statistically	Clinical aspect: Disorder severity rating, number of diagnosis, general psychological distress level. Human and social aspect: quality of life (QoL), treatment satisfaction.	Pilot study
[47]	No	6 months	38	Qn: Survey with	Statistically	Clinical Aspect: Psychiatric	Pilot study

				standardized questionnaires (BPRS, SANS, IMR, PHQ-9, SF-12).		symptoms, health indicator. Human and social aspect: QoL, illness self-management.	
[48]	No	73.2 days on average	2632	Qn: Survey with standardized questionnaire (KPD-38).	Statistically	Clinical Aspect: Physical and psychological impairment. Human and social aspect: Social problems.	Pragmatic trial
[49]	No	11 months	241	Qn: Survey with standardized questionnaires (PSS, COPE-index, GSE, WHO-5) and a single question for QoL).	Statistically	Clinical aspect: Stress level. Human and social aspect: caring situation, well-being, QoL, self-efficacy.	Pilot study
[50]	No	12 months	Patients from 20 community nursing services	Qn: Log-in to the system data, questionnaire. Ql: In-depth interview.	Statistically and in descriptive format.	Organizational aspect: Efficiency and quality of care.	Evaluation
[51]	No	4 weeks	31	Qn: Survey with standardized questionnaires (Eheals, gad-7, OASIS, ASI-3, PDSS-SR, QLES-Q-SF, Nijmegen questionnaire).	Statistically and in descriptive format.	Organizational aspect: Feasibility and efficacy.	Pilot study
[52]	No	6-months	46	Qn: Survey (BDI-II and others).	Statistically	Clinical aspects: Depressive symptom severity, medication adherence.	Pilot study
[53]	No	12 weeks	128	Qn: Survey with standardized questionnaire (HRSD-24, SF-12, BADS-SF QIDS-CR, HADS-A, WHO-5).	Statistically	Clinical aspect: Depressive symptom severity, anxiety. Human and social aspect: QoL.	Pilot study
[54]	No	12 months	43	Qn: Survey with standardized questionnaire (FIM).	Statistically	Human and social aspect: Independence.	Pilot study
[55]	No	8 weeks	8	Qn: Survey with standardized questionnaire (QIDS-C,	Statistically	Clinical aspect: Depression symptom severity, anxiety. Human and social aspect: Satisfaction,	Pilot study

				PHQ-9, GAD-7). QI: Telephone interview.		Technological aspect: Technical feasibility, functional reliability.	
[56]	No	Not mentioned	5 NHS acute hospital and mental health trusts.	Qn: Survey. QI: Semi-structured interviews, documents, field notes, observation.	Descriptive interpretation of data.	Organizational aspect: Implementation and adoption of electronic health records.	Evaluation
[57]	Relevance - Appropriateness - Transparency - Soundness (RATS)	10 months	Preoperative clinics in 14 territorial health-boards of Scotland	QI: Interviews, workshops.	Descriptive interpretation of data.	Organizational aspect: Implementation of an integrated preoperative care pathway and regional electronic clinical portal.	Evaluation
[58]	No	6 weeks	86 in Study-I and 39 in Study-II	Qn: Likert scale questionnaire). QI: Semi-structured interview.	Statistically and in descriptive format (this paper includes the descriptive part only).	Technological aspect: System usefulness (expected and perceived), impact of reminders, ease of use.	Pilot study
[59]	No	6 weeks	7	Qn: Survey with standardized questionnaire (MADRS-S, BDI-II, ISI, WSAS, PTQ, AS-18) and single question for perceived usefulness.	Statistically and in descriptive format.	Clinical aspect: Depressive symptoms. Human and social aspect: Treatment adherence, perceived usefulness.	Pilot study
[60]	CONSORT	12 weeks	562	Qn: Survey with standardized questionnaire (PHQ-9, MOS, GAD-7, IPAQ, WHODAS-II).	Statistically	Clinical aspect: Depression symptom severity, anxiety, physical activity, adherence.	Pilot study
[61]	Framework by Campbell and colleagues 2000)	6 weeks	20	Qn: Survey with standardized questionnaire (BPRS) and Structured clinical interview (SCID).	Statistically and in descriptive format (this paper includes the descriptive part only).	Clinical aspect: Psychiatric rating scale, DSM disorder. Human and social aspect: Perception of the system.	Design and pretesting
[62]	No	4 weeks	27	Qn: Survey with standardized questionnaire (BDI-2, QIDS-SR,	Statistically and in descriptive format.	Technological aspect: System use and acceptability.	Pilot study

				EQ-5D-5L, DAS-SF12).			
[63]	No	4 months	42	QI: Semi-structured and written interview.	Statistically and in descriptive format.	Human and social aspect: Empowerment and assistance in decision making. Technological aspect: Acceptance and willingness to use the system.	Pilot study
[64]	No	8 weeks	108	Qn: Survey with standardized questionnaires (Positive and Negative Syndrome scale and Global Impression Scale). QI: Structured interview.	Statistically and in descriptive format.	Clinical aspect: Adherence to medication.	Pilot study
[65]	No	3 months	40	Qn: Survey with standardized questionnaires (WHO-QOL-Brief, Dutch empowerment questionnaire, Pearlin mastery scale, social network questionnaire, client satisfaction questionnaire, SUS).	Statistically and in descriptive format.	Clinical aspect: Mastery. Human and social aspect: QoL, empowerment, social cohesion, satisfaction with care.	Pragmatic trial

Note. AS-18: Affective Scale-rating scale-18; ASI-3: Anxiety Sensitivity Index-3; BADS-SF: Behavioral Activation for Depression-short Form; BDI-II: Beck Depression Inventory-II; BPRS: Psychiatric Rating Scale; CES-D: Center for Epidemiologic Studies Depression; COPE-index: Careres of Older People in Europe index; DASS-21: Depression Anxiety Stress Scale-21; DSM: Diagnostic and Statistical Manual (for mental disorder); Eheals: eHealth Literacy Scale; EQ-5D-5L: EuroQol; FIM: Functional Independence Measure; GAD-7: Generalized Anxiety Disorder-7; GSE: General Self-efficacy; HADS: Hospital Anxiety and Depression Scale; HRSD-24: Hamilton Rating Scale for Depression-24; IMR: Illness Management and Recovery; IPAQ: International Physical Activity Questionnaires; ISI: Insomnia Severity Index; KPD-38: Klinisch Psychologisches Diagnosesystem-38; MADRS-S: Self-reported Montgomery-Åsberg Depression Rating Scale; MHSES: Mental Health Self-efficacy Scale; MOS: Medical Outcome Study; OASIS: Outcome and Assessment Information Set; PDSS-SR: Panic Disorder Severity Scale; PHQ-9: Patient Health Questionnaire-9; PSS: Perceived Stress Scale; PTQ: Perseverative Thinking Questionnaire; QIDS-CR: Quick Inventory of Depressive Symptomatology; QI: Qualitative; QLES-Q-SF: Quality of Life

Enjoyment and Satisfaction-short Form; QoL: Quality of Life; Qn: Quantitative; SANS: Assessment of Negative Symptoms; SCID: Structured Clinical Interview for Disorder; SF-12: Short Form-12; WHO-5: Wellbeing Index; WHODAS-II: World Health Organization Disability Assessment Schedule-II; WSAS: Work and Social Adjustment Scale.

References

20. Harrison V, Proudfoot J, Wee PP, Parker G, Pavlovic DH, Manicavasagar V. Mobile mental health: review of the emerging field and proof of concept study. *J Ment Health* 2011 Dec;20(6):509-524. PMID:21988230
42. Aschbrenner KA, Naslund JA, Gill LE, Bartels SJ, Ben-Zeev D. A qualitative study of client-clinician text exchanges in a mobile health intervention for individuals with psychotic disorders and substance use. *J Dual Diagn* 2016;12(1):63-71. PMID:26829356
43. Mohr DC, Duffecy J, Ho J, Kwasny M, Cai X, Burns MN, Begale M. A randomized controlled trial evaluating a manualized TeleCoaching protocol for improving adherence to a web-based intervention for the treatment of depression. *PLoS One* 2013 Aug;8(8):e70086. PMID:23990896
44. Kleiboer A, Donker T, Seekles W, van Straten A, Riper H, Cuijpers P. A randomized controlled trial on the role of support in Internet-based problem solving therapy for depression and anxiety. *Behav Res Ther* 2015 Sep;72:63-71. PMID:26188373
45. Cristancho-Lacroix V, Moulin F, Wrobel J, Batrancourt B, Plichart M, De Rotrou J, Cantegreil-Kallen I, Rigaud A. A web-based program for informal caregivers of persons with Alzheimer's disease: an iterative user-centered design. *JMIR Res Protoc* 2014 Sep;3(3):e46. PMID:25263541
46. Klein B, Meyer D, Austin DW, Kyrios M. Anxiety online: a virtual clinic: preliminary outcomes following completion of five fully automated treatment programs for anxiety disorders and symptoms. *J Med Internet Res* 2011 Nov;13(4):e89. PMID:22057287
47. Pratt SI, Naslund JA, Wolfe RS, Santos M, Bartels SJ Automated telehealth for managing psychiatric instability in people with serious mental illness. *J Ment Health* 2015;24(5):261-5. PMID:24988132
48. Zimmer B, Moessner M, Wolf M, Minarik C, Kindermann S, Bauer S. Effectiveness of an Internet-based preparation for psychosomatic treatment: Results of a controlled observational study. *J Psychosom Res* 2015 Nov;79(5):399-403. PMID:26526315
49. Ali L, Krevers B, Sjöström N, Skärsäter I. Effectiveness of web-based versus folder support interventions for young informal carers of persons with mental illness: a randomized controlled trial. *Patient Educ Couns* 2014 Mar;94(3):362-71. PMID:24341963
50. Bergmo TS, Ersdal G, Rødseth E, Berntsen G. Electronic messaging to improve information exchange in primary care. *Proceedings 5th International Conference on eHealth, Telemedicine, and Social Medicine eTELEMED; 2013 Feb 24–Mar 1; Nice, France. ISBN: 978-1-61208-252-3*

51. Pham Q, Khatib Y, Stansfeld S, Fox S, Green T. Feasibility and efficacy of an mhealth game for managing anxiety: “flowy” randomized controlled pilot trial and design evaluation. *Games Health J* 2016 Feb;5(1):50-67. PMID:26536488
52. Meglic M, Furlan M, Kuzmanic M, Kozel D, Baraga D, Kuhar I, Kosir B, Iljaz R, Novak Sarotar B, Dernovsek MZ, Marusic A, Eysenbach G, Brodnik A. Feasibility of an eHealth service to support collaborative depression care: results of a pilot study. *J Med Internet Res* 2010 Dec;12(5):e63. PMID:21172765
53. Ebert DD, Lehr D, Baumeister H, BoB L, Riper H, Cuijpers P, Reins JA, Buntrock C, Berking M. GET.ON Mood enhancer: efficacy of Internet-based guided self-help compared to psychoeducation for depression: an investigator-blinded randomised controlled trial. *Trials* 2014 Jan;15:39. PMID:24476555
54. Skidmore ER, Butters M, Whyte E, Grattan E, Shen J, Terhorst L. Guided training relative to direct skill training for individuals with cognitive impairments after stroke: a pilot randomized trial. *Arch Phys Med Rehabil* 2017 Apr;98(4):673-680. PMID:27794487
55. Burns MN, Begale M, Duffecy J, Gergle D, Karr CJ, Giangrande E, Mohr DC. Harnessing context sensing to develop a mobile intervention for depression. *J Med Internet Res* 2011 Jul-Sep;13(3):e55. PMID:21840837
56. Robertson A, Cresswell K, Takian A, Petrakaki D, Crowe S, Cornford T, Barber N, Avery A, Fernando B, Jacklin A, Prescott R, Klecun E, Paton J, Lichtner V, Quinn C, Ali M, Morrison Z, Jani Y, Waring J, Marsden K, Sheikh A. Implementation and adoption of nationwide electronic health records in secondary care in England: qualitative analysis of interim results from a prospective national evaluation. *Br Med J* 2010 Sep;341:c4564. PMID:20813822
57. Bouamrane MM, Mair FS. Implementation of an integrated perioperative care pathway and regional electronic clinical portal for preoperative assessment. *BMC Med Inform Decis Mak* 2014 Nov;14:93. PMID:25407812
58. Langrial SU, Lappalainen P. Information systems for improving mental health: six emerging themes of research. *Information Systems. Proceedings of the 20th Pacific Asia Conference on Informatics Systems (PACIS)*; 2016 Jun 27–Jul 1; Chiayi, Taiwan. ISBN: 9789860491029
59. Holländare F, Eriksson A, Lövgren L, Humble MB, Boersma K. Internet-based cognitive behavioral therapy for residual symptoms in bipolar disorder type II: a single-subject design pilot study. *JMIR Res Protoc* 2015 Apr;4(2):e44. PMID:25908235
60. Glozier N, Christensen H, Naismith S, Cockayne N, Donkin L, Neal B, Mackinnon A, Hickie I. Internet-delivered cognitive behavioural therapy for adults with mild to moderate depression and high cardiovascular disease risks: a randomised attention-controlled trial. *PLoS One* 2013;8(3):e59139. PMID:23555624
61. Lederman R, Wadley G, Gleeson J, Bendall S, Álvarez-Jiménez M. Moderated online social therapy: designing and evaluating technology for mental health. *ACM Trans Comput Hum Interact (TOCHI)* 2014 Feb;21(1):1-26. doi:10.1145/2513179
62. Burton C, Szentagotai Tatar A, McKinstry B, Matheson C, Matu S, Moldovan R, Macnab M, Farrow E, David D, Pagliari C, Serrano Blanco A, Wolters M, Help4Mood Consortium. Pilot randomised controlled trial of Help4Mood, an

- embodied virtual agent-based system to support treatment of depression. *J Telemed Telecare* 2016 Sep;22(6):348-55. PMID:26453910
63. Schaller S, Marinova-Schmidt V, Gobin J, Criegee-Rieck M, Griebel L, Engel S, Stein V, Graessel E, Kolominsky-Rabas PL. Tailored e-Health services for the dementia care setting: a pilot study of 'eHealthMonitor. *BMC Med Inform Decis Mak* 2015 Jul;15:58. PMID:26215731
64. Frangou S, Sachpazidis I, Stassinakis A, Sakas G. Telemonitoring of medication adherence in patients with schizophrenia. *Telemed J E Health* 2005 Dec;11(6):675-83. PMID:16430387
65. de Wit J, Dozeman E, Ruwaard J, Alblas J, Riper H. Web-based support for daily functioning of people with mild intellectual disabilities or chronic psychiatric disorders: A feasibility study in routine practice. *Internet Interv* 2015 May;2(2):161-168. doi: 10.1016/j.invent.2015.02.007